

Claims

1. A dilutable cleaning composition comprising a pH-elevating component and a pH-lowering component, the composition being such that when it is mixed with water the pH-elevating component dissolves or disperses in the water and the pH of the water is elevated to at least 8.5 and subsequently the pH-lowering component dissolves or disperses in the water and the pH of the water is lowered from at least 8.5 to not more than 4.
2. A dilutable cleaning composition as claimed in claim 1, wherein the pH-elevating component comprises an alkali metal compound.
3. A dilutable cleaning composition as claimed in claim 2, wherein the alkali metal compound comprises an alkali metal carbonate, bicarbonate, hydroxide or peroxy compound.
4. A dilutable cleaning composition as claimed in any preceding claim, wherein the pH-lowering component comprises an organic acid or inorganic acid, or a precursor thereto.
5. A dilutable cleaning composition as claimed in claim 4, wherein the pH-lowering component comprises sulphamic acid.
6. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that

when it is mixed with water the pH of the water is elevated to at least 9.

- 5 7. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that in use the pH of the water is lowered to not more than 3, from the elevated pH.
- 10 8. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that in use the pH change from the elevated pH to the lowered pH is at least 6.
- 15 9. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that in use the pH of the water attains a value of at least 8.5 after a dwell time of at least 30 seconds, after addition to water of the pH-elevating component.
- 20 10. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that in use the pH of the water attains a value of at least 8.5 after a dwell time of not more than 600 seconds, after addition to water of the pH-elevating component.
- 25 11. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that in use the pH of the water is lowered to not more than 4 within 600 seconds of the water reaching a pH of at least 8.5.
- 30 12. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is such that

in use the pH-lowering component is exposed to the water only when the pH-elevating component has substantially dissolved or dispersed in the water.

5 13. A dilutable cleaning composition as claimed in any preceding claim, wherein the pH-elevating component and pH-lowering component are arranged to be added simultaneously to the water, the composition comprising means to prevent dissolution or dispersion
10 of the pH-lowering component until the pH of the water has been elevated by the pH-elevating component.

14. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is a solid.

15 15. A dilutable cleaning composition as claimed in claim 14, wherein the composition is a powder or granules, or a block of consolidated powder or granules.

20 16. A dilutable cleaning composition as claimed in any preceding claim, wherein the pH-lowering component is coated with or enclosed by a dissolution or dispersal retarder which dissolves or disperses in water at a rate slower than the rate of dissolution or dispersal
25 of the pH-elevating component in the water, thereby inhibiting dissolution or dispersal of the pH-lowering component relative to the pH-elevating component.

17. A dilutable cleaning composition as claimed in Claim
30 16, wherein the composition is provided as a powder or granules comprising a first component being powder or granules comprising the pH-elevating component, and a second component being powder or granules comprising

the pH-lowering component coated or enclosed in the dissolution or dispersion retarder.

18. A dilutable cleaning composition as claimed in Claim
5 16, wherein the composition is provided as a powder or granules in which the pH-lowering component is coated with a layer of the pH-elevating component, the pH-elevating component therefore providing the dissolution or dispersion retarder.
- 10 19. A dilutable cleaning composition as claimed in any of claims 1 to 13, wherein the composition is provided as a dispersion or suspension of a particulate component in a liquid carrier.
- 15 20. A dilutable cleaning composition as claimed in claim 19, wherein the liquid carrier is an aqueous carrier.
- 20 21. A dilutable cleaning composition as claimed in any of claims 19 or 20, wherein the pH-elevating component is provided in liquid form, with the pH-lowering component being provided as suspension or dispersion of powder or granules therein.
- 25 22. A dilutable cleaning composition as claimed in any of Claims 1 to 13, wherein the pH-elevating and pH-lowering components are kept segregated from each other.
- 30 23. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition includes an indicator which changes colour on change of pH of the water.

24. A dilutable cleaning composition as claimed in any preceding claim wherein the composition is such that in use it is adapted to effervesce when dissolution or dispersion of either or both of the pH-elevating and pH-lowering components takes place.
25. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition is antimicrobial.
26. A dilutable cleaning composition as claimed in claim 25, wherein the antimicrobial effect is generated by dissolution or dispersal of either or both of the pH modifying components in the water.
27. A dilutable cleaning composition as claimed in claim 25 or 26, wherein an antimicrobial chemical is generated in situ, consequent upon the change in pH, and therefore with the same delay.
28. A dilutable cleaning composition as claimed in claim 27, wherein the antimicrobial chemical is an iodate, bromate, thiocyanate, chlorate, or a halogen gas, chlorine dioxide or a peroxy compound.
29. A dilutable cleaning composition as claimed in any preceding claim, wherein the composition produces a bleaching effect.
30. A dilutable cleaning composition as claimed in claim 29, wherein the bleaching effect is generated on

dissolution or dispersal of either or both of the pH modifying components.

31. A dilutable cleaning composition as claimed in either
5 of claims 29 or 30, wherein the bleaching effect is produced in situ on change in pH.
32. A dilutable cleaning composition as claimed in any of
claims 29 to 31, wherein the composition includes
10 sodium chlorite generating chlorine dioxide under acid conditions; or a peroxy compound.
33. A dilutable cleaning composition as claimed in any
preceding claim, wherein the composition includes one
15 or more surfactants.
34. A method of cleaning, using a dilutable cleaning composition as claimed in any proceeding claim.
- 20 35. A dilutable cleaning composition or a method of cleaning, substantially as described herein.